

## REMARKS

### *Claim Status*

Claims 1-19, 22-27, 29-33, 35, 36, and 117-120 were pending. Claims 20, 21, and 34 are withdrawn as allegedly directed to a non-elected species. Claims 28, 37-116, and 121-131 have been canceled without prejudice as drawn to a non-elected invention. The applicants intend to file a divisional application including at least some of these canceled claims.

The pending independent claims are claims 1, 12, and 25.

Independent claim 1 has been amended to delete “wherein the apparatus is a toothbrush” and specify a toothbrush head and a toothbrush handle.

Independent claim 1 has been amended to add “the tufts of bristles sized such that multiple tufts of bristles can be placed beside each other in a direction generally orthogonal to the handle[.]” New claims 132-134 have been added. Independent claim 12 has been amended to add “the elements of the second group sized such that multiple elements of the second group can be placed beside each other in a direction generally orthogonal to a maximum dimension of the toothbrush head.” Independent claim 25 has been amended to add “the tufts of bristles sized such that multiple tufts of bristles can be placed beside each other in a direction generally orthogonal to a maximum dimension of the toothbrush head.” Support for these amendments and new claims is clear from the figures.<sup>1</sup>

### *Form of Claim Amendments*

Pursuant to the Examiner’s earlier request, the applicants include a complete listing of the claims above. Further, as required by 37 C.F.R. §§ 1.173(d), the markings to the claims showing changes are relative to the earlier issued patent. To comply with 37 C.F.R. § 1.173(b)(2), the applicants have used the suggested language “amended,” “twice amended,” where appropriate. As used above, a previously presented new claim is indicated as “previously added,” and “once amended” if it has been subsequently amended.

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<sup>1</sup> See, e.g., Figure 1, 2, and 4.

### *Interview Summary*

A telephone interview was held on December 9, 2009 between Examiner Randall Chin and Sean Dean (the undersigned attorney). Claim 1 was discussed relative to the combination of Japan 5-76416 ("JP '416") and U.S. Pat. No. 5,524,319 ("Avidor") and relative to DE 1 210 409 ("DE '409"). It was agreed that the size and disposition of the tooth cleaning elements appeared to distinguish these references but Examiner Chin indicated that additional consideration of the claim language above would be required.

### *Claim Rejections*

#### Independent claim 1

Claims 1-11 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

The office action asserted that

**Claim 1, lines 1-2, the recitation "An apparatus comprising a toothbrush comprising" is awkwardly written and makes the scope of the claim vague and indefinite since this language makes it appear that the "apparatus" is some other structure that includes a toothbrush which would be inaccurate.**

The applicants do not concede that this assertion is correct but amend claim 1 to delete the language which the examiner objected to.

The office action also asserted

**Claim 1, line 7, the recitation "and any other rotatable tooth cleaning element" is awkward and renders the scope unclear since no "rotatable tooth cleaning element" was ever previously set forth in the claim.**

The applicants do not concede that this assertion is correct but amend claim 1 to delete the language which the examiner objected to.

Accordingly, the applicants ask the examiner to withdraw the rejections of claims 1-11 under 35 U.S.C. § 112.

Claims 1-3, 5, 8, 9 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Japan 5-76416 ("JP '416") in view of U.S. Pat. No. 5,524,319 ("Avidor"). Claims 4, 6, and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Japan '416 in view of

Avidor and further in view of DE 198 17704 ("DE 704"), U.S. Pat. No. 2,263,802 ("Grusin"), or U.S. Pat. No. 2,486,847 ("Hokett").<sup>2</sup> The applicants traverse.

A patent composed of several elements is not proved obvious merely by demonstrating that each element was, independently, known in the prior art.<sup>3</sup> In particular, a case of obviousness is not established by picking and choosing among the individual elements of prior art references to recreate the claimed invention.<sup>4</sup> The Supreme Court cautioned that "A fact finder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning."<sup>5</sup> Accordingly,

Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.<sup>6</sup>

Thus, rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.<sup>7</sup>

Claim 1, as amended, recites that

the tufts of bristles sized such that multiple tufts of bristles can be placed beside each other in a direction generally orthogonal to the handle, each tuft of bristles being supported for rotation about only one axis, each tuft of bristles being rotatable independent of one another

The examiner has not presented the basis of a *prima facie* case of obviousness of claim 1. The office action acknowledges that JP '416 does not teach "each tuft of bristles being rotatable

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<sup>2</sup> The applicants do not concede that the proposed combinations of references are appropriate and reserve the right to address this issue later as appropriate.

<sup>3</sup> See *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 127 S.Ct. 1727, 1731 (2007).

<sup>4</sup> See *Smithkline Diagnostics, Inc. v. Helena Laboratories Corp.*, 859 F.2d 878, 889, 8 USPQ2d 1468, 1477 (Fed. Cir. 1988); see also *In re Fine*, 837 F.2d at 1075, 5 USPQ2d at 1600 ("One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.").

<sup>5</sup> *KSR International Co. v. Teleflex Inc.*, 127 S.Ct. 1727 at 1742.

<sup>6</sup> *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 127 S.Ct. 1727, 1742 (2007).

<sup>7</sup> *In re Kahn*, 441 F.3d 977, 988 (C.A.Fed.2006) cited with approval in *KSR International Co. v. Teleflex Inc. et al.*, 127 S.Ct. 1727 at 1740.

independent of one another and any other rotatable tooth cleaning element on the toothbrush head.”<sup>8</sup> As the office action notes

The patent to Avidor discloses in the Fig. 5 embodiment a toothbrush comprising **single rows of tufts of bristles 27 which extend across the width of the head 23** (col. 3, lines 38-52). It would have been obvious to one of ordinary skill in the art to have modified Japan '416 **such that the tufts of bristles extend across the width of the column-shaped bodies** to define single tufts as suggested by Avidor for the purpose of improving cleaning effectiveness by increasing bristle surface contact area and which would then define tuft of bristles being rotatable independent of one another and any other rotatable tooth cleaning element on the toothbrush head.<sup>9</sup>

Thus, the proposed modification of JP '416 in view of Avidor would not provide independently rotatable bristle tufts in which “the tufts of bristles sized such that multiple tufts of bristles can be placed beside each other in a direction generally orthogonal to the handle”<sup>10</sup> but rather would provide “tufts of bristles [that] extend across the width of the column-shaped bodies[.]”<sup>11</sup> Moreover, use of “tufts of bristles sized such that multiple tufts of bristles can be placed beside each other in a direction generally orthogonal to the handle” would return to the teachings of JP '416 and each the smaller tufts of bristles would not be “rotatable independent of one another[.]”<sup>12</sup>

Neither DE 704, Grusin, nor Hokett has been shown to remedy the deficiency of the proposed combination of JP '416 and Avidor as discussed above.

For at least this reason, the articulated reasoning with some rational underpinning necessary to support the legal conclusion of obviousness has not been presented with respect to claim 1 and the associated dependent claims.

Accordingly, the applicants ask the examiner to withdraw the rejections of claims 1-9 and 11 as being unpatentable over JP '416 in view of Avidor, alone or in further view of DE 704, Grusin, or Hokett.

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<sup>8</sup> Office action dated July 27, 2009, page 3.

<sup>9</sup> Office action dated July 27, 2009, page 3 (emphasis added).

<sup>10</sup> Claim 1.

<sup>11</sup> Office action dated July 27, 2009, page 3.

<sup>12</sup> Office action dated July 27, 2009, page 3.

Claims 1, 2, 3, 8, 10 and 11 were also rejected under 35 U.S.C. § 102(b) as being anticipated by or under 35 U.S.C. § 103(a) as being unpatentable over DE 1 210 409 ("DE '409"). The applicants traverse.

DE '409 does not describe or make obvious "the tufts of bristles sized such that multiple tufts of bristles can be placed beside each other in a direction generally orthogonal to the handle[.]" The figures in DE '409 (which is in German) are side views which seem to disclose some type of conveyor belt with a plurality of brushing elements. There is no indication of the tufts of bristles are sized such that multiple tufts of bristles can be placed beside each other as claimed by the applicants nor is there any apparent reason that a person of ordinary skill in the art would modify the conveyor belt with a plurality of brushing elements to carry such tufts of bristles. Thus, DE '409 does not disclose all of the features of claim 1 and the examiner has not presented the basis of a prima facie case of obviousness of claim 1 over DE '409.

Furthermore, DE '409 does not describe an apparatus including "a toothbrush handle" and "a toothbrush head". The applicants have amended claim 1 to recite "a toothbrush handle" and "a toothbrush head" to specify claimed structure rather than providing a statement of intended use as suggested by the office action.

Every limitation positively recited in a patent application claim must be given effect in order to determine what subject matter that claim defines.<sup>13</sup> Accordingly, the feature that the claimed apparatus comprises "a toothbrush handle" and "a toothbrush head" must be given patentable weight. The action all but concedes that what is disclosed in DE '409 is not a toothbrush. The figures in DE '409 (which is in German) seem to disclose some type of conveyor belt with a plurality of brushing elements. Accordingly, claim 1 distinguishes DE '409 for at least the reason that claim 1 includes a toothbrush head and toothbrush handle.

The applicants recognize that, during examination, the pending claims must be given their broadest interpretation so as to reduce the possibility that the claims, once issued, will be interpreted more broadly than is justified.<sup>14</sup> However, this interpretation must also be reasonable

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<sup>13</sup> See *In re Wilder*, 57 C.C.P.A. 1314, 1318 (1970).

<sup>14</sup> See MPEP 2111.

and consistent with Applicants' specification.<sup>15</sup> The PTO must apply to the pending claims the broadest reasonable interpretation that is consistent with the interpretation that those skilled in the art would reach, "taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in applicant's specification" and the disclosure from analogous arts using the same claim term.<sup>16</sup>

The applicants submit that a person of ordinary skill in the art would not interpret an apparatus including "a toothbrush head" and "a toothbrush handle" as reading on what appears to be a conveyor belt supporting a brush. Thus, the language of claim 1 structurally distinguishes DE '409.

The applicants also traverse the examiner's assertion that

With respect to Applicant's arguments based on Germany '409 that claim 1 is directed to a "toothbrush", Germany '409 may not specifically teach a "toothbrush" but such disclosed structure could be used as such. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. There is nothing to prevent a user from utilizing the Germany '409 apparatus as a "toothbrush" for a human or any other small or large-sized living creature, for that matter, and therefore, is capable thereof. Any argument that the Germany '409 apparatus cannot satisfactorily brush one's teeth is unconvincing and unpersuasive.<sup>17</sup>

There is no indication that the apparatus shown in DE '409 would fit into a person's mouth. Moreover, the examiner's interpretation appears to imply that a person of ordinary skill in the art would interpret a push broom for sweeping driveways as "a toothbrush" because the push broom might be used by a zookeeper for cleaning the teeth of a hippopotamus. The applicants submit that this interpretation is not reasonable and consistent with Applicants' specification nor with the disclosure from analogous arts using the same claim term.

Claim 1 also distinguishes DE '409 because it recites "a plurality of tufts of bristles extending from the head" (emphasis added.) The office action asserts that

Germany '409 discloses in Fig. 2, for example, an apparatus comprising a brush comprising a backing or "handle" 1, a "head" 2 extending from the handle, and a plurality of tufts of bristles (three tufts shown in Fig. 2) extending from the head, each tuft of bristles

<sup>15</sup> See *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005).

<sup>16</sup> See MPEP 2111 citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005) and *In re Cortright*, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999)

<sup>17</sup> Office action dated July 27, 2009, pages 14 and 15.

being supported for rotation about only one axis, each tuft of bristles being rotatable independent of one another and any other rotatable tooth cleaning element on the toothbrush head.<sup>18</sup>

However, element 2 in DE '409 only has a single tuft extending from it. The other two tufts extend from *different* elements 2' and 2, each of which extend separately from base 1, which the action alleges corresponds to the claimed handle. Thus, DE '409 fails to disclose a head extending from a handle and having a plurality of tufts of bristles extending from the head, as required by claim 1. In response to our previous presentation of these arguments, the examiner asserts that the

head could be a portion element 1 (Fig. 2) and the "handle" could be any distal end thereof (i.e., of element 1) which can be gripped or handled by a user.<sup>19</sup>

The applicants submit that a person of ordinary skill in the art would not interpret a toothbrush handle as reading on what appears to be a conveyor belt supporting a brush simply because the conveyor belt can be gripped or handled.

Accordingly, the applicants ask the examiner to withdraw the rejections of claim 1.

The applicants submit the claims that depend from claim 1 distinguish the cited prior art for at least the same reasons as those set forth above for independent claim 1.

#### Independent claim 12

Claims 12-19, 22-24, 117 and 120 were rejected under 35 U.S.C. 103(a) as being unpatentable over Japan '416 in view of Avidor and DE '704. The applicants traverse.

For at least reasons analogous to the reasons discussed with respect to claim 1, no articulated reasoning with a rational underpinning has been presented as to why a person of ordinary skill would modify the toothbrushes described by JP '416 to provide a toothbrush head

wherein each of the elements in the second group is supported for rotation about only one axis and independently rotatable with respect to one another and any other rotatable tooth cleaning element on the toothbrush head, the elements of the second group sized such that multiple elements of the second group can be placed beside each other in a direction generally orthogonal to a maximum dimension of the toothbrush head.<sup>20</sup>

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<sup>18</sup> Office action dated July 27, 2009, page 6.

<sup>19</sup> Office action dated July 27, 2009, page 15.

<sup>20</sup> Claim 12.

Furthermore, the examiner acknowledges that Japan '416 does not disclose "a "first group" of tooth cleaning elements extending from the head and wherein each of the elements of the first group is nonrotatable."<sup>21</sup> The examiner asserts that

**It would have been obvious ... to have further provided a first group of tooth cleaning elements extending from the head and wherein each of the elements of the first group is nonrotatable wherein the elements within each of the groups being of a common type and the type of elements in the first group being different (e.g., sizewise) from the type of elements in the second group, as suggested by DE '704, to increase the overall brushing effectiveness of the toothbrush by permitting the cleaning of exterior tooth surfaces.**

However, the action does not point to any indication in the cited references or in the office action that would lead a person of ordinary skill in the art to expect that the proposed modification would "to increase the overall brushing effectiveness of the toothbrush by permitting the cleaning of exterior tooth surfaces" by the toothbrush described in JP '416. Rather than presenting articulated reasoning with a rational underpinning as to why a person of ordinary skill would modify the toothbrushes described by JP '416 with features of DE '704, the examiner is simply stating the general goal that underlies most, if not all, modifications to toothbrush designs. If such a general goal sufficed as a reason to combine references, most, if not all, improvements to existing devices would not be patentable because, as noted by the Supreme Court

**inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.<sup>22</sup>**

For at least these reasons, the conclusory statements made by the examiner do not provide the articulated reasoning with some rational underpinning to support the legal conclusion of obviousness and cannot sustain rejections on obviousness grounds.<sup>23</sup>

Moreover, neither JP '416 nor DE '704 describe "the type of elements in the first group being different from the type of elements in the second group." The action asserts that this limitation is met simply by the rotatable tufts in DE '704 being a different size than the non-rotatable tufts. However, the applicants submit that this broad construction is improper and the

<sup>21</sup> Office action dated December 2, 2008, page 9.

<sup>22</sup> *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 127 S.Ct. 1727, 1742 (2007).

<sup>23</sup> See, e.g., *KSR Intern. Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741-42 (2007) citing *In re Kahn*, 441 F.3d 977, 988 (C.A.Fed.2006).



applicants ask the examiner to withdraw the rejection, as both JP '416 and DE '704 plainly show tooth cleaning elements all of the same type – i.e., every tooth cleaning element in JP '416 and in DE '704 is a tuft of bristles.

For at least these reasons, the applicants ask the examiner to withdraw the rejections of claim 12.

The applicants submit the claims that depend from claim 12 distinguish the cited prior art for at least the same reasons as those set forth above for independent claim 12.

Furthermore, the dependent claims include features which further distinguish the cited references. For example, claim 118 recites that “the type of elements in the first group is compositionally different from the type of elements in the second group.” Claims 118 and 119 were rejected under 35 U.S.C. 103(a) as being unpatentable over Japan '416 in view of DE 704, and further in view of U.S. Pat. No. 5,896,614 (“Flewitt”). The office action asserts that

**It would have been obvious to one of ordinary skill in the art to have provided the modified Japan '416 apparatus with a type of elements in a first group being structurally and compositionally different from the type of elements in a second group as suggested by Flewitt to increase the overall brushing and/or massaging effectiveness of the toothbrush apparatus.<sup>24</sup>**

The applicants respectfully submit that the proposed, multiple-step modification of JP '416 is beyond any modification that would reasonably occur to one of ordinary skill in this art, and could only have been obtained through a detailed analysis of the applicants' disclosure and claims.<sup>25</sup> Moreover, the action provides no rational basis for the propose modification other than the overbroad goal of increasing overall brushing effectiveness. To the contrary, in some situations, replacing one type of brushing element with another type of brushing element may decrease brushing effectiveness in some aspects and yet improved them for others. The action provides no basis for why a person of skill in the art would consider the propose modification, let alone determine that the proposed modification would “increase the overall brushing and/or massaging effectiveness of the toothbrush apparatus.” For at least this reason, the proposed

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<sup>24</sup> Office action dated December 2, 2008, page 14.

<sup>25</sup> One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention (See *In re Fine*, 837 F.2d at 1075, 5 USPQ2d at 1600). Similarly, the mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification (See *In re Gordon*, 221 U.S.P.Q. 1125, 1127).

combination of references is inappropriate. Accordingly, the applicants request the withdrawal of the rejections of claims 118 and 119.

Independent claim 25

Claims 25-27, 29-32, 33, 35, and 36 were rejected under 35 U.S.C. 103(a) as being unpatentable over JP '416 in view of DE '704, alone or further in view of Grusin or Hokett. the applicants traverse.

For at least reasons analogous to the reasons discussed with respect to claim 1, no articulated reasoning with a rational underpinning has been presented as to why a person of ordinary skill would modify the toothbrushes described by JP '416 to provide

**a plurality of tufts of bristles extending from the head, each tuft of bristles being supported for rotation about only one axis, each tuft of bristles being rotatable independent of all other rotatable tuft(s) of bristles on the toothbrush head, the tufts of bristles sized such that multiple tufts of bristles can be placed beside each other in a direction generally orthogonal to a maximum dimension of the toothbrush head,<sup>26</sup>**

Furthermore, for at least reasons analogous to the reasons discussed with respect to claim 12, no articulated reasoning with a rational underpinning has been presented as to why a person of ordinary skill would modify the toothbrushes described by JP '416 with features of DE '704 to provide a toothbrush "including at least one tooth cleaning element which cannot be rotated" (claim 25).

For at least these reasons, the applicants ask the examiner to withdraw the rejections of claim 25.

The applicants submit the claims that depend from claim 25 distinguish the cited prior art for at least the same reasons as those set forth above for independent claim 25.

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<sup>26</sup> Claim 25.

Applicant : Phillip M. Braun et al.  
Serial No. : 10/820,562  
Filed : April 8, 2004  
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Attorney's Docket No.: 00216-0638001 / OB-184 Reissue

***Conclusion***

Please apply any charges or credits to deposit account 06-1050, referencing 00216-0638001.

Respectfully submitted,

Date: \_\_\_\_\_

*December 22, 2009*

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